

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A substrate holder for supporting a substrate, comprising:

a supporting surface;

a cooling component having a plurality of cooling channels configured to receive a cooling fluid;

a heating component positioned adjacent to the supporting surface and between the supporting surface and the cooling component;

a fluid gap positioned between the cooling component and the heating component such that the fluid gap is interposed between the plurality of cooling channels of the cooling component and heating component, the fluid gap configured to receive a fluid to vary the thermal conductance between the cooling component and the heating component; and

a brazing material disposed at least along a peripheral region between the cooling component and the heating component such that the brazing material is disposed adjacent to the fluid gap and provides part of an enclosure which forms the fluid gap.

Claim 2 (Original): The substrate holder according to claim 1, wherein the heating component comprises a body portion and an embedded heater disposed in the body portion.

Claim 3 (Original): The substrate holder according to claim 2, wherein the body portion comprises an aluminum alloy, and the embedded heater is cast in the aluminum alloy.

Claim 4 (Original): The substrate holder according to claim 1, wherein the cooling component comprises an upper cap and a lower cap.

Claim 5 (Previously Presented): The substrate holder according to claim 4, wherein the upper cap comprises the plurality of channels configured to receive a cooling fluid.

Claim 6 (Original): The substrate holder according to claim 5, wherein the lower cap comprises a plate having a flat top surface positioned adjacent to the upper cap.

Claim 7 (Original): The substrate holder according to claim 6, further comprising:
a second brazing material positioned between the upper cap and the lower cap.

Claim 8 (Original): The substrate holder according to claim 1, further comprising:
a mechanical connection positioned between the supporting surface and the heating component.

Claim 9 (Original): The substrate holder according to claim 8, wherein the mechanical connection comprises an adhesive.

Claim 10 (Original): The substrate holder according to claim 1, wherein the fluid gap comprises at least one fluid gap groove in at least one of the heating component and the cooling component.

Claim 11 (Original): The substrate holder according to claim 10, wherein the fluid gap groove is disposed in the cooling component.

Claim 12 (Original): The substrate holder according to claim 10, wherein the fluid gap groove is disposed in the heating component.

Claim 13 (Original): The substrate holder according to claim 1, further comprising:
at least one isolating groove positioned between the cooling component and the heating component, the isolating groove configured to prevent flow of the brazing material into the fluid gap.

Claim 14 (Original): The substrate holder according to claim 13, wherein at least a portion of the isolating groove is disposed in the cooling component.

Claim 15 (Original): The substrate holder according to claim 13, wherein at least a portion of the isolating groove is disposed in the heating component.

Claim 16 (Original): The substrate holder according to claim 15, wherein at least a portion of the isolating groove is disposed in the cooling component.

Claim 17 (Original): The substrate holder according to claim 13, wherein at least one isolating groove comprises a plurality of isolating grooves.

Claim 18 (Original): The substrate holder according to claim 17, wherein the plurality of isolating grooves are concentric.

Claim 19 (Original): The substrate holder according to claim 1, further comprising:
first and second isolating groove positioned between the heating component and the cooling component and on opposite sides of the fluid gap, the isolating grooves configured to prevent flow of the brazing material into the fluid gap.

Claim 20 (Original): The substrate holder according to claim 18, wherein the isolating grooves are disposed in at least one of the heating component and the cooling component.

Claim 21 (Original): The substrate holder according to claim 19, wherein the heating component and the cooling component comprise aluminum alloys.

Claim 22 (Original): The substrate holder according to claim 19, wherein the heating component and the cooling component comprise a same aluminum alloy.

Claim 23 (Original): The substrate holder according to claim 21, wherein the heating component comprises a body portion and an embedded heater, the embedded heater cast into the body portion.

Claim 24 (Original): The substrate holder according to claim 22, wherein the cooling component comprises an upper cap and a lower cap, the heating component positioned between the supporting surface and the upper cap.

Claim 25 (Original): The substrate holder according to claim 24, wherein the upper cap comprises a same aluminum alloy as the heating component.

Claim 26 (Currently Amended): A substrate holder for supporting a substrate, comprising:

a supporting surface;

a cooling component having a plurality of cooling channels configured to receive a cooling fluid;

a heating component positioned adjacent to the supporting surface and between the supporting surface and the cooling component;

a fluid gap positioned between the cooling component and the heating component such that the fluid gap is interposed between the plurality of cooling channels of the cooling component and heating component, the fluid gap configured to receive a fluid to vary the thermal conductance between the cooling component and the heating component;

a brazing material disposed at least along a peripheral region between the cooling component and the heating component such that the brazing material is disposed adjacent to the fluid gap and provides part of an enclosure which forms the fluid gap; and

means for preventing flow of the brazing material into the contact zone.

Claim 27 (Original): The substrate holder according to claim 26, wherein the means for preventing flow comprises a groove.

Claim 28 (Original): The substrate holder according to claim 27, wherein the groove is disposed in at least one of the heating component and the cooling component.

Claim 29 (Original): The substrate holder according to claim 28, wherein at least a portion of the groove is disposed in the cooling component.

Claim 30 (Original): The substrate holder according to claim 28, wherein at least a portion of the groove is disposed in the heating component.

Claim 31 (Original): The substrate holder according to claim 30, wherein at least a portion of the groove is disposed in the cooling component.

Claims 32-44 (Canceled).

Claim 45 (Currently Amended): A substrate holder for supporting a substrate, comprising:

a supporting surface;

means for cooling the supporting surface;

means for heating the supporting surface positioned adjacent to the supporting surface and between the supporting surface and the means for cooling;

means for receiving a fluid to vary thermal conductance between the means for cooling and the means for heating, the means for receiving a fluid being positioned between the means for cooling and the means for heating; and

~~means for connecting~~ a brazing material disposed at least along a peripheral region between the means for cooling and the means for heating such that the brazing material provides part of an enclosure which forms the means for receiving a fluid.

Claim 46 (Original): The substrate holder according to claim 45, wherein the means for heating comprises at least one of a thermoelectric device and a channel configured to flow at least one of elevated temperature fluorinated dielectric liquid, water, and steam.

Claim 47 (Original): The substrate holder according to claim 45, wherein the means for cooling comprises at least one thermoelectric device.

Claim 48 (New): The substrate holder according to claim 1, wherein the brazing material further comprises a brazing material provided radially inward of the peripheral region so as to form a plurality of discrete fluid gaps between the cooling component and heating component.

Claim 49 (New): The substrate holder according to claim 1, wherein the fluid gap is approximately 50 μm in distance.